

Claims

1. Method for error correction of an encoded data stream including the steps of:

- 5 - saving the demodulated data stream in an input buffer (2);
- performing a first correction process on-the-fly in the input buffer (2);
- transferring the data to an external DRAM (3) after correction;
- 10 - copying the data from the external DRAM (3) to an embedded SRAM (11);
- starting a multipass correction in the embedded SRAM (11);
- and
- copying the corrected data back from the embedded SRAM (11)
- 15 to the external DRAM (3) after the multipass correction.

2. Method according to claim 1, **whereby** streaming discontinuities of less than one row are corrected immediately in the input buffer (2) while streaming discontinuities of one
20 row or more are corrected in the external DRAM (3).

3. Method according to claim 1 or 2, **further** including the step of using the external DRAM (3) for deinterleaving.

25 4. Method according to one of claims 1 to 3, **characterized** in that the data stream includes data frames consisting of data rows and columns including horizontal and vertical parity data for correcting errors in the data frame.

30 5. Method according to one of claims 1 to 4, **characterized** in that the size of the input buffer (2) is at least twice the number of bytes per row of the data frame.

6. Method according to one of claims 1 to 5, **characterized** in
35 that the input buffer (2) is an SRAM.

7. Method according to one of claims 1 to 6, **further** including the step of storing status bits in a status memory (12), the status bits indicating if a row of the data frame is correct or not.

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8. Device for error correction of an encoded data stream, including:

- an input buffer (2) for saving the demodulated data stream and performing a first correction process on-the-fly;

10 - an external DRAM (3) to which the data are transferred after correction;

- an embedded SRAM (11) for performing a multipass correction on the corrected data;

15 - means (9) for copying the data frame from the external DRAM (3) to the embedded SRAM (11); and

- means (13) for copying the corrected data back from the embedded SRAM (11) to the external DRAM (3) after the multipass correction.

20 9. Device according to claim 8, **further** including a deinterleaver (4) for deinterleaving and/or for correcting streaming discontinuities in the external DRAM (3).

10. Apparatus for reading from and/or writing to recording
25 media, **characterized** in that it uses a method according to anyone of claims 1 to 7 or comprises a device according to anyone of claims 8 or 9 for error correction of an encoded data stream.